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Links between Sexual Trauma Exposure and Quality of Life (QoL) Domains among People Living with HIV in the Southern United States

Sayward E. Harrison[1,2], **Monique Brown**[2,3], **Hyunsan Cho**[2]

[1]Department of Psychology, College of Arts and Sciences, University of South Carolina.

[2]South Carolina SmartState Center for Healthcare Quality, Arnold School of Public Health, University of South Carolina.

[3]Department of Epidemiology and Biostatistics, Arnold School of Public Health, University of South Carolina.

Abstract

People living with HIV (PLHIV) in the United States (US) are more likely to experience traumatic events than non-affected peers. Sexual violence is a unique type of trauma that has important implications for HIV risk and for the HIV-related treatment and care needs for PLHIV. While sexual violence is a known risk factor for a variety of mental health symptoms and disorders, less is known about how this type of trauma may impact other domains of functioning—especially among PLHIV. Thus, the aim of the current study was to examine links between sexual violence and Quality of Life (QoL) among PLHIV in South Carolina—one of the US states that is most heavily impacted by the HIV epidemic. Specifically, we surveyed 402 PLHIV about their past exposure to sexual traumas and their current QoL across multiple domains. Results indicated that women living with HIV were more likely to have experienced sexual trauma than men. Participants with histories of sexual trauma reported poorer overall QoL, as well as less satisfaction with their health. Multiple regression analyses indicated that exposure to sexual violence was associated with lower QoL in four of six domains, including psychological functioning, level of independence, social relationships, and environment. Sexual trauma was not associated with physical health QoL in the current study. Surprisingly, sexual trauma was associated with higher scores in the QoL area of spirituality. Findings support the need to screen for trauma exposure among PLHIV, adopt trauma-informed medical practices, and ensure that all PLHIV are able to access comprehensive psychological services when indicated.

Corresponding Author: Sayward E. Harrison, Ph.D., Department of Psychology, College of Arts and Sciences, University of South Carolina, 1512 Pendleton Street, Barnwell College, Suite #220, Columbia, SC 29208, 803-777-8907, harri764@mailbox.sc.edu.

SH and HC participated in initial development of the survey protocol and design. SH, MB, and HC developed the research questions for this analysis. HC completed the data analysis and results section, with input from MCB and SH. SH wrote the first draft of the manuscript, and MH contributed to finalizing the manuscript.

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Keywords

Trauma; sexual violence; quality of life; HIV; Southern US

Background

Trauma-informed approaches are increasingly recognized as an important strategy to improve care for people living with HIV (PLHIV) and to increase success along the HIV Care Continuum (Substance Abuse and Mental Health Services Administration [SAMHSA], 2018). Trauma exposure among PLHIV in the United States (US) is prevalent, and PLHIV are at a higher risk for experiencing multiple types of trauma including sexual abuse and physical abuse than the general population (Brief et al., 2004; Pence, 2009). These trauma exposures—whether they are a one-time incident or repetitive, persistent events—increase an individual's risk for a variety of negative outcomes that may occur immediately after the traumatic event or years later. Understanding the impacts of trauma is especially important for PLHIV, as psychological factors have been found to be associated with key Care Continuum outcomes including engagement in HIV care (Rooks-Peck et al., 2018) and adherence to antiretroviral therapy (ART) (Gourlay, Birdthistle, Mburu, Iorpenda, & Wringe, 2013). Trauma exposure may also negatively impact PLHIV across many other life domains (e.g., social relationships, occupational success) that are directly or indirectly linked with HIV outcomes.

A person's response to trauma is shaped by multiple, complex contexts, including underlying biological mechanisms, cognitive and perceptual processes, and broader social and cultural systems (Lemelson, Kirmayer, & Barad, 2007). While some individuals display a "resilient" response (Ungar, 2013) and are able to cope or even flourish after trauma exposure, others may experience a myriad of negative outcomes. Previous efforts to identify clinical symptoms that are associated with trauma exposure have identified a range of symptoms that may occur after a trauma, including anger and irritability; sadness; avoidance and dissociation; difficulties with sexual functioning; interpersonal challenges; and maladaptive behaviors (e.g., self-harm, substance use) (Briere, Elliott, Harris, & Cotman, 1995; American Psychiatric Association [APA], 2013).

A small but significant portion of individuals exposed to trauma develop post-traumatic stress disorder (PTSD), which features a constellation of clinically significant symptoms after exposure to a trauma, including (1) intrusive symptoms (e.g., recurring memories or dreams of the trauma, distress when exposed to cues of the trauma), (2) avoidance symptoms (e.g., avoiding trauma-related thoughts, memories, and contexts), (3) negative changes in thought and mood (e.g., memory problems, persistent negative emotional state, loss of interest in activities), and (4) changes in arousal (e.g., irritability, hypervigilance, difficulty concentrating) (APA, 2013). Both the type of trauma that an individual has been exposed to and the individual's past history of trauma are important risk factors of the development of PTSD (Kessler et al., 2017; Brewin, Andrews, & Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2003). Sexual traumas, including rape, sexual assault, and intimate partner sexual violence have repeatedly been identified as traumas that place individuals at greater risk for

PTSD than other types of trauma (e.g., physical assault, natural disaster, automobile accident) (Brewin et al., 2000; Tolin & Foa, 2006). Women are more likely to experience sexual traumas than men and are at increased risk for PTSD, even though women's lifetime prevalence of trauma is lower than that of men (Breslau, 2002).

While a majority of research on the impacts of trauma has focused on trauma-related clinical symptoms and psychological disorders, trauma exposure may have other important implications, including negative impacts on Quality of Life (QoL). As defined by the World Health Organization (WHO), QoL is "a state of complete physical, mental, and social well-being not merely the absence of disease" (World Health Organization [WHO], 1997). This multidimensional construct is useful in expanding traditional definitions of health and wellness (WHO QoL Group, 1995). The WHO's conceptualization of QoL emphasizes that an individual's perception of their wellbeing is situated within their culture and value system, and includes self-assessment of quality and satisfaction across a wide range of domains (e.g., physical health, psychological functioning, social relationships, etc.) (WHO QoL Group, 1995; Cohen et al., 1998). For PLHIV, health-related QoL has long been recognized as a goal of HIV treatment and care (Cohen et al., 1998; Franchi & Wenzel, 1998) yet few studies have yet sought to examine how trauma exposure—particularly sexual trauma—may impact QoL for PLHIV, especially among individuals in the Southern US, which has a higher burden of HIV-related morbidity and mortality than any other region (Centers for Disease Control and Prevention, 2019). Thus the aim of the present study was to determine whether exposure to sexual trauma was associated with poorer QoL among PLHIV in South Carolina—a Southern US state with poor outcomes and significant socio-demographic disparities across the HIV Care Continuum (Chakraborty et al., 2015; Edun, Iyer, Albrecht, & Weissman, 2015).

Method

Participants and Procedure

A total of 402 PLHIV were recruited from a comprehensive immunology center in South Carolina to take part in a cross-sectional survey on psychosocial, behavioral, and physical health. Inclusion criteria were: 1) >18 years old; 2) living with HIV; and 3) resident of South Carolina. Data were collected via paper-pencil survey between May and September 2018 on-site at the immunology center, which serves in total ~2,500 PLHIV. Of all patients who were approached about the study, an estimated 80% agreed to participate. All participants received a $20 gift card for participation. Study procedures were approved by the Institutional Review Board of the University of South Carolina. Full information on study procedures have been reported elsewhere (Brown et al., 2019; Haider et al., 2019). Only measures and data analysis relevant to the current study will be reported here.

Measures

Socio-demographic characteristics were collected via self-report, with participants reporting on age, gender (male, female, other), sexual identity (heterosexual/straight, gay or lesbian, bisexual), race (American Indian/Alaskan Native, Asian, Black/African American, Native Hawaiian/Other Pacific Islander, White, other), household income (<$10,000, $10,000-

$24,999, $25,000-$49,999, $50,000-$99,000, >$100,000), and highest level of education completed.

Sexual trauma exposure.—For this study we conceptualized trauma exposure in a manner consistent with the *Diagnostic and Statistical Manual of Mental Disorders-5th Edition* (DSM-5) that defines trauma exposure as personally experiencing, witnessing, or being indirectly exposed (i.e., through the experience of a family member or close associate) to "actual or threatened death, serious injury, or sexual violence" (APA, 2013). Participants completed the *Lifetime Events Checklist (LEC)* (Blake et al., 1995), which asked them to report their exposure to 17 different trauma experiences (e.g., natural disaster, assault with a weapon, etc.). Two items on the LEC assess sexual traumas. These include assessments of whether the participant has ever been exposed to (1) sexual assault (e.g., rape, attempted rape, made to perform a sexual act through force or threat of harm) or (2) another unwanted or uncomfortable sexual experience. Participants who endorsed one or both of these items were coded as having been exposed to sexual trauma.

Quality of Life.—Participants' QoL was measured with the *WHO Quality of Life-HIV Brief Instrument (WHOQOL-HIV-BREF)* (O'Connell & Skevington, 2012), a multi-dimensional profile that includes 31 items covering six QoL domains (i.e., Psychological Functioning, Personal Autonomy, Social Relationships, Environment, Spirituality, Physical Functioning) and two general areas (i.e., Overall QoL, Health Satisfaction). Participants responded to questions (e.g., "Do you feel accepted by the people you know?", "How satisfied are you with your personal relationships?") using a 5-point scale that ranged from 1="Very dissatisfied" to 5="Very satisfied." Composite scores were generated for the six QoL domains in accordance with standardized scoring guidelines (WHO, 2002). Single items were used to measure Overall QoL and Health Satisfaction (Pereira, Martins, Alves, & Canavarro, 2014). Higher scores indicated greater QoL for domains and single-item scales. The *WHOQOL-HIV-BREF* has been used widely with PLHIV, including with middle-aged and older adults (Pereira et al., 2014; Fuster-Ruiz de Apodaca et al., 2019).

Data Analysis

Descriptive analyses were conducted to examine frequencies of the study variables. T-tests were used to determine the mean differences in QoL domains by sexual trauma status. Cronbach's alpha was calculated to measure the reliability of each domain. Multivariable regression analyses were conducted to examine the associations between sexual trauma exposure and each outcome variables (i.e., overall QoL, satisfaction with health, six QoL domains) while controlling for demographic variables. All analyses were performed using SAS (SAS Institute, Cary, NC).

Results

Characteristics of study participants

From the total sample of 402 PLHIV, 19 individuals did not respond to items about their sexual trauma status. Data from these participants were excluded from further analysis. Table 1 presents the demographic characteristics of the study participants (n=383) as a

whole and by sexual trauma status. Among PLHIV in the sample, about 70% were 35 years old and over, 66% were male, 77% were African American, and 46% were heterosexual. Approximately 54% had completed some college, and 88% reported an annual household income of less than $50,000. Twenty six percent (26%) of the study participants reported that they had experiences of sexual trauma. More women reported sexual trauma compared to men. There were no other significant differences in demographic variables by sexual trauma status.

Bivariate analyses

Table 2 presents the mean value of overall QoL, satisfaction with health, and each domain of the WHOQOL by sexual trauma status. The internal consistency of each domain was acceptable, with Cronbach's alphas ranging from 0.70 (physical health QoL, independence QoL) to 0.84 (social relations QoL, environmental QoL), with the exception of the spirituality QoL domain (0.50). On average, participants rated their overall QoL as good (4.07, where 4=good), but their satisfaction with their health was moderate (3.68, where 3=neither dissatisfied nor satisfied and 4=satisfied). Among the six QoL domains, psychological QoL (3.88) had the highest mean rating, and spirituality QoL had the lowest (2.28). In bivariate analyses, PLHIV with exposure to sexual trauma reported significantly lower overall QoL, less satisfaction with their health, poorer psychological QoL, lower independence QoL, poorer social relations QoL, and poorer environmental QoL when compared to PLHIV without exposure to sexual trauma. Bivariate analysis did not indicate significant differences in mean scores for QoL domains of physical health and spirituality between trauma-exposed and non-trauma exposed participants.

Multivariable Regression analyses

Multivariable regression results (Table 3) demonstrated that, overall, the strongest risk factor of QoL was self-reported sexual trauma. Trauma exposure was significantly associated with overall QoL, satisfaction with health, psychological QoL, independence QoL, social relations QoL, environmental health QoL, and spirituality QoL. However, sexual trauma exposure was not a significant risk factor of physical health QoL. Among sociodemographic variables, age (older) and gender (female) were significant risk factors of the spirituality QoL domain. African Americans reported lower overall QoL, less satisfaction with health and poorer independence QoL when compared to other races. Those with lower incomes reported lower overall QoL and poorer environmental QoL compared to participants with higher incomes. Having at least some college experience was positively related to the physical health QoL domain.

Discussion

Exposure to sexual violence among this sample of PLHIV in South Carolina was common, with more than 1 out of 3 women and 1 out of 5 men reporting past sexual trauma. In the US, sexual violence is not an uncommon experience, with recent national data suggesting that ~21.3% of US women and ~2.6% of US men experienced a completed or attempted rape at some point in their lives (Smith et al., 2018). The broad nature of the trauma items included in the current study prevents detailed examination of the types of sexual trauma

experienced by participants (e.g., contact sexual violence, completed rape, attempted rape, forced penetration, sexual coercion, etc.)—but provides additional evidence that exposure to sexual violence is common among PLHIV.

Healthcare providers and systems have a critical role to play in the prevention, screening, and treatment of sexual trauma (García-Moreno et al., 2015). Because sexual trauma is vastly underreported to legal authorities, many survivors do not receive needed support. Providers are in an optimal position to serve as a "gateway" to these services, and a number of useful resources are available for implementing sexual assault screening and referral procedures in healthcare settings (National Sexual Violence Resource Center, 2011; Florida Council Against Sexual Violence, 2012). Integrated HIV care and treatment centers are well positioned to connect survivors of sexual assault to mental health care and other needed services (e.g., substance use treatment, housing, social services) (Zaller, Gillani, & Rich, 2007; Mizuno, Higa, Leighton, Mullins, & Crepaz, 2019). The American Medical Association, the WHO, the American College of Obstetricians and Gynecologists, the American Academy of Pediatricians, and the American Nurses Association all have recommendations supporting screening for sexual violence; however, it is notable that most of these recommendations focus on women (Zaller et al., 2007). HIV care providers should be alert that HIV-positive men are also at-risk for sexual violence—particularly men who are gay, bisexual, and transgender (Walters, Chen, & Breiding, 2013; Brown & Herman, 2015).

Findings from the current study show that past experiences of sexual trauma were associated with poorer QoL in a number of important domains. Among our sample of Southern PLHIV, sexual trauma was associated with poorer psychological functioning and social relationships. This is particularly concerning because good mental health and social support are key protective factors that are linked with improved HIV-related health behaviors (e.g., ART adherence, care engagement) and, thus, better clinical outcomes (Blashill, Perry, & Safren, 2011; Turan, Fazeli, Raper, Mugavero, & Johnson, 2016). There is growing interest in developing new approaches that simultaneously address psychosocial needs and key health behaviors for PLHIV, such as Safren and colleagues' (2009) cognitive behavioral therapy for adherence and depression (CBT-AD). These approaches may be useful for PLHIV with histories of sexual trauma, and efforts to develop integrated interventions that target the psychological and social impacts of trauma exposure, as well as HIV-related health behaviors should be explored.

In addition, findings indicate that PLHIV with exposure to sexual trauma reported poorer environmental QoL and reduced independence in their daily activities. Items contributing to the environmental domain assess individuals' perceptions of physical safety and security, as well as their basic resources (e.g., transportation, living conditions, having enough money to meet needs), while the independence domain measures individuals' adaptive or daily life skills (e.g., mobility, ability to perform daily activities, ability to work). Though the current findings are cross-sectional in nature, PLHIV who experience sexual trauma may have heightened awareness of safety and security needs and thus may be more attuned to potential environmental threats—with hypervigilance a commonly reported symptom of PTSD (Kessler et al., 2017). These perceptions, as well as potential mental and physical health impacts of sexual trauma, may serve to limit the ability of PLHIV to engage in daily

activities. Future studies are needed to explore whether reduced QoL in these domains may be linked with poorer clinical outcomes, including retention and engagement in care.

In the current study, sexual trauma was associated with higher self-reported QoL in one domain—spirituality. This is consistent with a previous study that found that a majority of survivors of sexual assault reported an increased role of spirituality in the lives after experiencing the trauma (Kennedy, Davis, & Taylor, 1998), as well as another study that found high levels of religious coping (e.g., redefining the event as 'part of God's plan', relying on God for support or guidance) after sexual assault—particularly among African American survivors (Ahrens, Abeling, Ahmad, & Hinman, 2010). Faith and spirituality are understudied psychosocial constructs within the HIV literature. Better understanding is needed of the intersection between faith and psychosocial wellbeing for PLHIV—particularly in the Southern US, where a majority of the residents attend church regularly and report their faith to be "somewhat" or "very" important (Pew Research Center, 2019).

Sexual trauma was not found to be associated with physical QoL in the current study. Because participants reported on their lifetime exposure to trauma, the sexual traumas that were endorsed may have happened to participants many years ago. Thus, the lack of association with current physical symptoms is not surprising. In addition, only four physical health constructs (i.e., sleep, energy, physical pain, HIV-related physical problems) were assessed by the scale used in the current study. Future studies may wish to explore other potential physical impacts of sexual trauma among PLHIV and how symptomatology changes over time.

Limitations

A key limitation of the current study was the use of two items to measure exposure to sexual trauma among participants. While these items are part of a well-validated scale for assessing lifetime exposure to trauma (WHO, 2002), no clinical interviews were conducted and potentially important details of the traumas (e.g., duration, severity) were not collected. Thus, we were unable to ascertain whether trauma occurred prior to or after HIV diagnosis, as well as whether the trauma was associated with an individual's HIV status. We also had no data on whether participants with trauma histories had received any trauma-related services—data that could be important in understanding later impacts on QoL. All participants were also currently attending a comprehensive immunology center for HIV care—which means the sample likely differed in important ways from the broader population of PLHIV in South Carolina, including those who were not in care. Finally, the use of a cross-sectional design prevents drawing conclusions related to causality.

Conclusions

Nonetheless, the study represents a step forward in understanding the links between sexual trauma and QoL among PLHIV in the Southern US. Patient-centered constructs such as QoL may allow for a deeper understanding of the impacts of sexual trauma for PLHIV that extend beyond mental and physical health symptoms. The high levels of sexual trauma reported by participants are a stark reminder of the importance of implementing prevention, screening, and referral services for sexual trauma in all HIV treatment and care centers. In addition,

important associations were found between sexual trauma and poorer psychosocial wellbeing, as well as reduced QoL in environmental and independence domains. These findings highlight that sexual trauma histories may create barriers and challenges for PLHIV that negatively impact them across the HIV Care Continuum, and greater efforts are needed to develop tailored interventions for PLHIV with trauma histories.

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Table 1.

Demographic Characteristics and Sexual Trauma Exposure among Study Participants

Demographic Characteristics	**Total Participants *N*=383[b] (100%)**		**Sexual Trauma *N*=99 (25.85%)**	**No Sexual Trauma *N*=284 (74.15%)**	***p*-value[a]**
	N (%)		**N (%)**	**N (%)**	
Age					0.323
18-24	29 (7.9)		8 (8.4)	21 (7.7)	
25-34	82 (22.3)		27 (28.4)	55 (20.2)	
35-49	113 (30.8)		29 (30.5)	84 (30.9)	
50+	143 (39.0)		31 (32.6)	112 (41.2)	
Gender					
Female	126 (34.2)		44 (46.8)	82 (29.9)	**0.003**
Male	242 (65.8)		50 (53.2)	192 (70.1)	
Ethnicity/Race					
Black or African American	295 (77.2)		75 (75.8)	220 (77.7)	0.686
Non-Black	87 (22.8)		24 (24.2)	63 (22.3)	
Sexual Orientation					
Heterosexual (straight)	168 (46.2)		42 (45.2)	126 (46.5)	0.824
Gay or lesbian/ Bisexual/ MSM/ Other (GBMSM)	196 (53.8)		51 (54.8)	145 (53.5)	
Education					
Less than high school	45 (14.0)		10 (12.3)	35 (14.6)	0.504
High School	101 (31.5)		24 (29.6)	77 (32.1)	
Some College	113 (35.2)		34 (42.0)	79 (32.9)	
Bachelor's/Post-grad	62 (19.3)		13 (16.1)	49 (20.4)	
Annual Household Income					
Less than $10,000	126 (35.4)		42 (45.2)	84 (31.9)	0.063
$10,000 to $49,000	188 (52.8)		43 (46.2)	145 (55.1)	
≥ $50,000	42 (11.8)		8 (8.6)	34 (12.9)	

[a] *P*-values are based on chi-square statistic, **Bolded** *p*-values are significant at $p<0.05$

[b] Due to missing data, columns may not sum to $N=383$ for all study variables

Table 2.

Comparison of Mean Scores of QoL Measures for Total Sample and by Sexual Trauma Status

***WHOQOL-HIV-BREF* Items and Domains**	**No of items**	**Content of Items and Domains**	**Cronbach's Alpha**	**Total Sample**	**History of Sexual Trauma**	**No History of Sexual Trauma**	***p*-value[a]**
				M (SD)	**M (SD)**	**M (SD)**	
Overall QoL	1	Overall assessment of QoL	-	4.07 (0.85)	3.81 (0.95)	4.16 (0.79)	**0.001**
Health Satisfaction	1	Overall satisfaction with health	-	3.68 (1.13)	3.35 (1.26)	3.82 (1.03)	**0.001**
Physical Health QoL	4	Pain and discomfort; physical symptoms; energy and fatigue; sleep and rest	0.70	2.76 (0.61)	2.69 (0.58)	2.77 (0.61)	0.272
Psychological QoL	5	Positive feelings; thinking, learning, memory, and concentration; self-esteem; body image and appearance; negative feelings	0.81	3.88 (0.88)	3.57 (0.97)	3.97 (0.84)	**0.0001**
Independence QoL	4	Mobility; activities of daily living; dependence on medication or treatment; work capacity	0.70	3.47 (0.70)	3.32 (0.72)	3.50 (0.69)	**0.028**
Social Relations QoL	4	Personal relationships; social support; social inclusion; sexual activity	0.84	3.69 (1.08)	3.39 (1.18)	3.78 (1.04)	**0.002**
Environmental QoL	8	Physical safety and security; home environment; financial resources; accessibility and quality of healthcare and social care; opportunities for acquiring new information and skills; participation in recreation and leisure activities; transportation	0.84	3.83 (0.88)	3.61 (1.07)	3.90 (0.80)	**0.015**
Spirituality QoL	4	Spirituality / religion / personal beliefs; forgiveness and blame; concerns about the future; death and dying	0.50	2.28 (0.77)	2.39 (0.77)	2.22 (0.75)	0.061

[a] *P*-values are based on chi-square statistic, **Bolded** *p*-values are significant at $p<0.05$

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Table 3.

Summary of Multivariable Regression Models for Variables Associated with QoL Outcomes

Variable	Overall QoL	Satisfac-tion with Health	Physical Health QoL	Psycho-logical QoL	Indepen-dence QoL	Social Relations QoL	Environ-mental QoL	Spirituality QoL
	Estimate [95% CI]	**Estimate [95% CI]**	**Estimate [95% CI]**	**Estimate [95% CI]**	**Estimate [95% CI]**	**Estimate [95% CI]**	**Estimate [95% CI]**	**Estimate [95% CI]**
Age	0.004 [−0.004, 0.01]	0.01 [−0.001, 0.02]	0.004 [−0.001, 0.009]	0.005 [−0.003, 0.01]	−0.0003 [−0.007, 0.006]	0.007 [−0.004, 0.01]	0.001 [−0.006, 0.009]	**−0.009 * [−0.02, −0.002]**
Heterosexual (ref=BGMSM)	0.08 [−0.22, 0.38]	0.14 [−0.25, 0.54]	0.07 [−0.11, 0.27]	0.04 [−0.25, 0.34]	0.17 [−0.06, 0.40]	0.08 [−0.30, 0.46]	0.08 [−0.18, 0.35]	−0.10 [−0.36, 0.16]
Female (ref=male)	−0.17 [−0.48, 0.13]	−0.26 [−0.66, 0.15]	−0.13 [−0.33, 0.07]	−0.15 [−0.46, 0.15]	−0.19 [−0.42, 0.04]	−0.23 [−0.62, 0.16]	−0.17 [−0.44, 0.10]	**0.32 * [0.06, 0.59]**
Black (ref=other races)	**−0.27 * [−0.53, −0.02]**	−0.34[a] [−0.67, 0.003]	−0.10 [−0.26, 0.07]	−0.25[a] [−0.50, 0.003]	**−0.21 * [−0.40, −0.02]**	−0.18 [−0.50, 0.14]	−0.15 [−0.37, 0.08]	0.10 [−0.12, 0.32]
Income (ref=high income)								
Low-Income	**−0.43 * [−0.82, −0.03]**	−0.10 [−0.62, 0.41]	0.05 [−0.21, 0.30]	−0.39[a] [−0.79, 0.002]	−0.20 [−0.50, 0.10]	−0.10 [−0.60, 0.40]	**−0.44 * [−0.80, −0.09]**	0.09 [−0.25, 0.43]
Mid-Income	−0.12 [−0.46, 0.22]	−0.05 [−0.50, 0.39]	0.05 [−0.17, 0.27]	−0.19 [−0.53, 0.15]	−0.09 [−0.35, 0.17]	0.05 [−0.38, 0.49]	−0.27 [−0.57, 0.04]	0.08 [−0.22, 0.38]
Education (ref=less than high school)								
High School	−0.10 [−0.52, 0.33]	−0.29 [−0.85, 0.26]	0.12 [−0.15, 0.39]	−0.14 [−0.55, 0.28]	−0.21 [−0.52, 0.11]	0.16 [−0.37, 0.69]	−0.25 [−0.63, 0.12]	−0.27 [−0.63, 0.09]
Some College	0.03 [−0.27, 0.33]	0.08 [−0.32, 0.48]	**0.27 ** [0.08, 0.47]**	0.09 [−0.21, 0.40]	0.02 [−0.21, 0.26]	0.24 [−0.15, 0.63]	−0.08 [−0.36, 0.19]	−0.08 [−0.34, 0.19]
Bachelor/Post-Grad	−0.05 [−0.34, 0.24]	−0.06 [−0.44, 0.32]	0.08 [−0.11, 0.26]	0.10 [−0.19, 0.39]	0.04 [−0.18, 0.26]	0.14 [−0.22, 0.51]	−0.15 [−0.41, 0.11]	−0.10 [−0.35, 0.15]
Sexual Trauma (ref=no trauma)	**0.33 ** [0.09, 0.57]**	**0.56 *** [0.24, 0.88]**	0.09 [−0.06, 0.25]	**0.37 ** [0.13, 0.62]**	**0.19 * [0.0005, 0.37]**	**0.44 ** [0.13, 0.75]**	**0.36 ** [0.14, 0.58]**	**−0.27 * [−0.48, −0.06]**

Note. **Bolded** *b* and 95% confidence intervals are statistically significant

[a] =*p*=.05

* =*p*<.05

** =*p*<.01

*** = $p < .001$